



WATER RESOURCES RESEARCH GRANT PROPOSAL

Title: MODELS OF INTERSTATE WATER ALLOCATIONS IN THEORY AND IN PRACTICE: THE ACT-ACF AGREEMENTS AS APPLIED CASE STUDIES.

Duration: September 1, 1997 to December 31, 1998

Federal Funds: \$56,962 (Total) \$56,962 (Direct) \$0- (Indirect)

Non-Federal Funds: \$113,919 (Total) \$56,346 (Direct) \$57,573 (Indirect)

Principal Investigator(s), University, and City: Aaron T. Wolf and C. Hobson Bryan, University of Alabama, Tuscaloosa; Jeff Jordan, University of Georgia, Athens; Frank Casey, University of Florida, Gainesville.

Congressional District: Sixth-Alabama, Eleventh-Georgia, Fifth-Florida

Water Problem and Need for Research:

The legislature of three states riparian to the Apalachicola, Chattahoochee, Flint (ACF) and the Alabama, Coosa, Tallapoosa (ACT) river systems are in the process of approving interstate river compacts for the management of these basins. These compacts will be charged with determining equitable water allocations for the two systems by December 1998, an extraordinarily difficult task in the best of cases. Researchers at the U. of Alabama, in conjunction with multi-year projects sponsored by the World Bank and the US Institute of Peace, have recently compiled and analyzed a dataset of 146 national and international water treaties which include explicit water allocations. Colleagues at the U. of Florida have been involved in theoretical and applied research into economic and game theoretical models of equitable water allocations.

We propose an 18-month program for inter-disciplinary research which would bring together both applied and theoretical experiences allocating water resources, in both the national and international settings, and apply our findings to the work of the ACT and ACF compacts. Our program would have four steps: 1) Assess and delineate the principles for water allocations actually used historically in national and international compacts and treaties; 2) Assess and delineate economic and game theoretical models of equitable water allocations; 3) Apply our findings from steps 1) and 2) to ongoing negotiations over allocations between the ACT and ACF riparian impacts of implementing a range of possible solutions in the tri-state area.